

Amendments to the Claims:

Original claims 17 – 21, 23 – 25, 27 and 28 have been amended, and new claims 29 through 36 added. The following listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

17. (Currently Amended) A hydroformable article comprising:
a female ~~metal~~ tube portion and a male ~~metal~~ tube portion, a portion of said female tube portion being disposed about a portion of said male tube portion;
a groove disposed in at least one of said male tube portion and said female tube portion to form an annular region between said male tube portion and said female tube portion; and
a cured adhesive disposed in said annular region between said male tube portion and said female tube portion so as to form a bonded joint,
wherein ~~said metal of said female metal tube portion, said metal of said male metal tube portion and said adhesive are chosen so as to endure~~ said bonded joint is able to withstand a hydroforming process substantially without leakage and maintain sufficient strength, fatigue resistance and durability to be utilized as a structural element after said article is formed into its final shape.

18. (Currently Amended) The hydroformable article according to claim 17, wherein ~~the~~ said article forms part of a body frame element.

19. (Currently Amended) The hydroformable article according to claim ~~18~~ 17, wherein ~~the body frame element comprises a portion of~~ said article forms part of a structural frame member of a vehicle frame.

20. (Currently Amended) The hydroformable article according to claim 18, wherein ~~the body frame element comprises~~ said article forms a portion of a structural frame member of a motor vehicle ~~an automobile frame.~~

21. (Currently Amended) The hydroformable article according to claim 17, wherein the said article is capable of withstanding hydroforming pressure greater than about 5000 psi.

22. (Original) The hydroformable article according to claim 17, wherein said adhesive has a minimum shear yield strength of at least about 5000 psi.

23. (Currently Amended) The hydroformable article according to claim 17, wherein ~~said metal of said male tube portion and said metal of said female tube portion~~ are each made of a metal that has a minimum yield strength of at least about 30,000 psi.

24. (Currently Amended) The hydroformable article according to claim 17, wherein ~~said metal of said male tube portion and said metal of said female tube portion are the same metal~~ said adhesive exhibits a shear yield stress that is at least equal to the hydroforming pressure of the hydroforming process.

25. (Currently Amended) A hydroformed article comprising:
a female ~~metal~~ tube portion and a male ~~metal~~ tube portion, a portion of said female tube portion being disposed about a portion of said male tube portion so as to form a joint;
a groove disposed in at least one of said male tube portion and said female tube portion to form an annular region between said male tube portion and said female tube portion; and
a cured adhesive disposed in said annular region between said male tube portion and said female tube portion,
wherein said female tube portion and said male tube portion having been permanently deformed by hydroforming.

26. (Original) The hydroformed article according to claim 25, wherein said female tube portion includes a remainder portion outside of said joint, said male tube portion includes a remainder portion outside of said joint, and the remainder portion of said male tube portion being disposed at an angle of greater than or less than 180 degrees to the remainder portion of said female tube portion.

27. (Currently Amended) The ~~hydroformable~~ hydroformed article according to claim ~~25~~ 26, wherein the remainder portion of said female tube portion and the remainder portion of said male tube portion form one of an L-shape, T-shape, S-shape and a cross-shape.

28. (Currently Amended) The ~~hydroformable-joint~~ hydroformed article according to claim 25, wherein said groove is formed in said male tube portion, and said female tube portion does not contain a groove.

29. (New) A composite frame structure comprising a plurality of said hydroformable article according to claim 17 in the form of a birdcage structure, said birdcage structure being hydroformable into a desired shape.

30. (New) The hydroformed article according to claim 25, wherein said cured adhesive, as well as said female tube portion and said male tube portion, has been permanently deformed by hydroforming.

31. (New) The hydroformed article according to claim 25, wherein said cured adhesive is disposed in said annular region so as to bond together said male tube portion and said female tube portion and so as to prevent substantial leakage during the hydroforming.

32. (New) The hydroformed article according to claim 25, wherein said groove is formed in said male tube portion and another groove is formed in said female tube portion, with said adhesive being disposed in each said groove.

33. (New) The hydroformed article according to claim 25, wherein said groove is formed in said female tube portion, another groove is formed in said male tube portion, and the two grooves are positioned so as to be offset with respect to each other.

34. (New) The hydroformed article according to claim 25, wherein said groove is formed in said male tube portion and another groove is formed in said female tube portion, so that together the two grooves form said annular region.

35. (New) The hydroformed article according to claim 25, wherein said groove has a groove depth, said male tube portion and said female tube portion have a fit-up clearance, and the ratio of the groove depth to fit-up clearance is sufficient to prevent bypass leakage of said adhesive beyond said joint, when said adhesive in an uncured state is disposed in said annular region.

36. (New) A composite birdcage frame structure comprising a plurality of said hydroformed article according to claim 25, said birdcage structure having been hydroformed into a desired shape.